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ABSTRACT

Nearly 90% of all University of Wisconsin-Eau Claire (UWEC) students and staff are regular users of e-mail. The University has taken advantage of this widespread use and replaced many paper distributions--payroll earnings statements, unofficial transcripts, degree audits, adviser grade reports, bills, et cetera--with distribution via e-mail. Internal reports that were formerly printed and distributed to departments via campus mail are now e-mailed as attachments. Instructors are notified via e-mail when a student withdraws from class, and advisers are notified when an advisee withdraws from the University, neither of which was practical until e-mail. This paper discusses the specifics of the system, how it is being accepted by staff and students, savings, and what precautions other organizations should take if they decide to pursue using e-mail for official communication. (Author/AEF)

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Using E-mail as an Official Means of Communication

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Nearly 90% of all UWEC students and staff are regular users of email. The University has taken advantage of this widespread use and replaced many paper distributions--payroll earnings statements, unofficial transcripts, degree audits, adviser grade reports, bills, etc. -- with distribution via email. Internal reports that were formerly printed and distributed to departments via campus mail are now emailed as attachments. Instructors are notified via email when a student withdraws from class, and advisers are notified when an advisee withdraws from the University, neither of which was practical until email. This paper discusses the specifics of the system, how it is being accepted by staff and students, savings, and what precautions other organizations should take if they decide to pursue using e-mail for official communication.

Introduction

At UW-Eau Claire email is a utility. We rely on it just as we rely on heat, water and electricity. Instructors use it to communicate with their students and advisees; administrators use it to communicate with faculty; employees use it to communicate with each other, and students use it to communicate with everyone. While UW-Eau Claire is not unique in the proliferation of email, we do believe that we have taken our use of it a step farther than most institutions. We have taken advantage of this widespread email utilization, and now use it to distribute administrative reports, personal documents and official notifications--saving money and improving service to students and faculty. We believe that we have been quite successful.

This paper will give an overview of UW-Eau Claire, our email services, distribution lists, and official use of email. We will discuss the savings and advantages of email as a delivery vehicle. We will also tell you how it has been accepted and share with you some precautions to take if you decide to use email as an official means of communication.

The University of Wisconsin – Eau Claire

UW-Eau Claire is a four year, public, liberal arts university. We have about 10,500 students (9800 undergraduate and 700 graduate students) during the regular academic year and about 3000 during the summer. We have about 1,200 faculty, academic staff, classified staff, and limited term employees.

Hardware / Software Environment

Until recently, UW-Eau Claire used Control Data's Mail*Hub for our primary email server. This is a Unix based system. This fall we switched over to Microsoft Exchange as our primary email server. We use a Unisys ClearPath NX mainframe for our administrative systems, almost all of which have been developed in-house. The mainframe uses a Unisys proprietary operating system called MCP/AS, which includes TCP/IP and contains a Windows NT server in the same box. Our desktop environment is primarily Windows NT. Our primary email client is Eudora, though many other email clients are also used. Our other servers (Web, DNS, Notes, Library, etc.) are primarily Windows NT or various flavors

of Unix.

Email Services at UW-Eau Claire

Around 1985 we began providing email access to selected employees. The number of employees with email access increased significantly between 1985 and 1995. In 1995 we began providing email access to all employees and all students. This was the point at which we began to view email services as a utility that students and staff should never be without.

Email Accounts at UW-Eau Claire

As soon as an employee is added to our personnel database and receives a current or future appointment, he/she receives an email account. This is an overnight process. Students receive an email account after they are accepted and before they are scheduled to arrive on campus or when they first register--whichever happens first. This is also an overnight process.

Email use on campus is widespread. 90% of our students are active users of email; for undergraduates the figure is closer to 95%. 90% of our staff are also active users of email; most of the non-users are people who don't work at desks, such as custodians and maintenance workers, though we do have a few faculty who still refuse to use email.

We remove email accounts that have expired twice a year, around March and October. This allows students to retain access to their email accounts for several months after they graduate or stop attending UW-Eau Claire. Employees retain access to their email accounts until the March or October after they were last employed. Emeriti and other retirees, however, are allowed to retain their email accounts indefinitely.

We have taken many steps to encourage the use of email. We provide free training on how to use email to both students and staff. We provide staff members who do not have computers at their desks (or desks for that matter) access to computer kiosks for checking and sending email. More and more instructors are relying on email to communicate with their students. For many courses email use is required. And...the more email is used, the more people use email. The percentage of users of email has increased steadily. Use by students jumped quickly when they discovered that if they used email, they would get their registration appointments a few days or weeks earlier. (Electronic registration materials were distributed prior to paper ones.) We collect email addresses from prospective students and alumni though we don't provide them with email accounts. This allows us to keep in contact with alumni via email, which is much less expensive than paper mail.

It is this universal access to email by all staff and students which made email delivery of information possible and practical. Anyone who does not use email at UW-Eau Claire is CHOOSING not to use it!

Automated Class Distribution Lists

In 1995, when we first provided email accounts to all students, we also began creating class distribution lists that are directed to all the students enrolled in a class along with the instructor(s) of the class. Any staff members may use these class distribution lists. Students may also use the distribution list for the classes in which they are enrolled. This allows these distribution lists to be used as pseudo "news groups", facilitating class discussions.

A primary use of these distribution lists is in assisting instructors in building their gradebooks. We created a function called "gradebook" that allows a faculty member to request a list of the students in a class which can be subsequently pasted into a spreadsheet--saving the instructor from entering the students manually. To use this function a faculty member sends an email to "gradebook" and places the name of the class distribution list in the subject line of the email message. They get back a list of the members of the distribution list along with the email name, student ID and classification of each person in the list.

The names of the class distribution lists are in the format 9999.xxxx.999.xxx where 9999 indicates the term, xxxx indicates the course department, 999 indicates the course number, and xxx indicates the course section. The name of the distribution list for section 001 of English 110 offered in the fall of 1998 is 9891.engl.110.001. In 1998, we began allowing additional people to be added to a list at the request of the instructor. An example of these are upper class student mentors assigned to freshmen experience classes that are not instructors and not officially taking the course.

Class distribution lists are re-built nightly for any class that has had drop/add activity that day. At first we did not create distribution lists for a term until a few weeks before the start of the term. Now we create them as soon as registration begins. This means that as soon as students register for a class we can begin communicating with them as a class.

Standard Distribution Lists

Soon after our introduction of campus-wide email, we began receiving all kinds of requests to create distribution lists of one kind or another. The creation and maintenance of these lists were eating up the time of the technical people charged with administering our email system. We needed to come up with a way to reduce the number of these requests. We decided to increase the number and types of distribution lists that were created and maintained routinely. Below is a list of some of the standard lists we create along with examples and descriptions.

xxxx.majors - engl.majors *- undergraduate students with an English major*
xxxx.minors - engl.minors *- undergraduate students with an English minor*
xxxx.gradstu - engl.gradstu *- graduate students in English*
999999.program *- students with the specific major or minor identified by the code 999999*
xxxxxxxx.advisees *- ritlanmm.advisees - students advised by the person with the email name ritlanmm*
xxxx.staff - engl.staff *- English department members (includes the secretary)*
all.uwec.staff *- all staff members at UW-Eau Claire (usage restricted)*
contact.staff *- designated contact staff person in each department*
chancellors.staff *- self explanatory*
classified.staff *- all permanent support staff members*
lte.staff *- all limited term employees*
academic.chairs *- academic department chairs*
deans.list *- deans, associate deans, assistant deans*
supervisors.list *- all support staff supervisors*

Ad Hoc Distribution Lists

Creation of the standard distribution lists above was helpful in reducing the volume of requests, but there continued to be a significant number of requests for specialized lists. To deal with this problem we created tools and placed them in the hands of the Registrar and the Personnel office, allowing them to create distribution lists for themselves and for others. Historically, these offices have responded to requests for mailing labels and reports using existing ad hoc reporting tools. We saw providing the capability to create distribution lists as a natural extension of the label production service. This has gotten our technical people almost completely out of the job of creating distribution lists.

Emailing from the Administrative Mainframe

In 1996, we acquired from GoldEye Software two pieces of software that allowed us to send email from our administrative mainframe. One piece of software allows us to send email messages directly from COBOL (or other language) programs. The other piece of software allows us to distribute mainframe reports as email attachments directly from our administrative mainframe. We realized right away that this might be a way to divert documents from print to email distribution and save time and money in the process.

We decided to make advisor grade reports our first test of this capability. Prior to this, every semester we

had produced a printed grade report for each student. These grade reports were distributed to academic departments and then to individual advisors. We changed the advisor grade report program to allow either print or email distribution. We then sent an email to advisors inviting them to subscribe to the email version of the advisor grade report. The invitation contained a sample grade report. About 150 faculty members subscribed. We recorded the preferences of the faculty members who requested email distribution on the database. The distribution was very successful. In some cases we needed to provide some training on the use of email filters to assist advisors in managing these emails. We also discovered that if an advisor was using a proportional font as their default email font, the grade report that was organized in columns did not display correctly. We added a warning at the beginning of the email advising them to chose "Courier New" as their font.

With the success of this project, we plunged ahead into replacing paper with email wherever practical. Since 1996 UW-Eau Claire has been emailing directly from our administrative mainframe many reports and documents that were formerly printed, separated by hand, addressed and stuffed into envelopes for distribution via campus mail services or stamped, sorted and mailed via the U.S. Postal Service. We've saved time, money, and paper; and are providing faster, more accurate, and more flexible document delivery to our staff and students.

We send notifications on- and off-campus telling users that a file has just been FTP'ed or that a file is now available to be picked up. We also notify users of the results of processing. We notify programmers about errors or problems needing attention. We send files as attachments or inserted in the body of the emails.

As more and more paychecks are deposited electronically; the challenge of distributing the earnings statements remains. UW-Eau Claire converted this too, to electronic distribution--we email most earnings statements directly to staff and student employees. Students request unofficial transcripts, degree audits and bills on-line. Faculty request unofficial transcripts and degree audits for their advisees on-line. These documents are delivered via email. We will soon begin sending out grade reports and bills with a return receipt. Our plan is to mail paper versions of these documents only to students for whom we have not processed a return receipt.

Once a term we send an email to students with the current address information we have on file. The email contains a URL that will link them to the Registrar's address update page on the web. We send students registrations appointment times via email along with a current degree audit. We notify advisors when any of their advisees withdraw from school. We notify instructors when one of their students withdraws from a class after the initial drop/add period has ended. We notify instructors when students will be absent from class for illness or approved absences like field trips.

The mainframe reports that we now distribute via email are too numerous to list here. They include all kinds of reports--very short reports, very long reports, daily reports, reports that are viewed and discarded without ever touching paper, reports that are permanently retained--simply all kinds of reports.

Emailing to the Administrative Mainframe

When UW-Eau Claire decided to make electronic grade submission available to faculty, we decided that email was the preferred delivery vehicle. So… now instead of having to physically hand in grades on paper; or enter grades into a database, faculty can simply send their grades via email addressed to a "gradesubmit" address, with a subject line indicating the term and course ID. The body of the email must also contain a special security code known only to the instructor. Email delivered to the "gradesubmit" address is collected regularly (every 20 minutes) by the mainframe, and a program was written which posts the grades to the appropriate enrollment files. Automated emails indicating receipt of the submission, and verifying the success/errors of the submission are then returned to the submitter. Faculty who maintain electronic gradebooks (spreadsheets) throughout the term can do a quick "copy & paste" and have their grades submitted in minutes! But, even faculty who do not maintain a spreadsheet can retrieve (via email) heir class lists, type in grades following each name, and submit them via email.

We have not made this grade submission method mandatory, but faculty who have used it invariably

rave about its convenience.

Our latest email innovation has been a solution to the age-old problem of "posting" grades. The Registrar's Office has historically advised against grade-posting, but students have continually requested that faculty do so; and faculty have too often opted for unsecured means of posting. So, we have now developed an address called "exampost," to which faculty can send an email, listing the email names of all students in the class and the grades earned. This message will be sent to the mainframe where it is parsed into separate emails sent to each of the students, containing their grade only.

This not only meets the "posting" need for routine grading, but it gives us a vehicle for the electronic distribution of mid-term grades--something which was previously done manually (by faculty, for freshmen students only).

Student and Staff Acceptance

Students, as one would expect, have been very adaptable. They immediately saw the benefits of receiving documents via email. They can make on-line requests for emailed documents such as transcripts, degree audits, and bills--saving them a trip to an office to pick up a paper copy. Many had difficulty opening attachments, so--for the most part, we have sent them only emails with the information in the body of the message. Students have even been initiating some requests for email distribution. If any group of students was a bit reluctant, it was the graduate students who tend to be older and the least comfortable with email, at least on our campus.

Faculty have had mixed reactions. Some like it. Some don't. If they do not like it, they certainly let us know. We have encouraged them to set up filters to manage their email and have resisted making exceptions to standard email distributions. Some documents are only distributed via email. If they don't use email, they do not receive the document. For the most part, they've been pretty positive and appreciative. They too have on-line access to request transcripts and degree audits for their advisees, which are delivered via email. They like this very much.

Support staff were a bit unsure at first. Once they started using it and saw how easy it was-- how much it was like dealing with any other emails and attachments, they became comfortable. They started to see the advantages as they worked with it. The speed of delivery as compared to the delivery time for paper reports really sold them. They could start their work at 8:00am instead of waiting for paper reports which often didn't reach them until 9:00am or the next day. If they were comfortable using a PC, their acceptance level was high. Once they started getting some documents via email they started asking if they could receive additional reports this way. Usually the answer was "yes."

As you might expect, some of our programmers were the most difficult to sell on this. They had many legitimate concerns. As they experimented a bit with recoverable reports, their appreciation grew. They had to learn a bit about SMTP and POP, and how our email servers worked, but this also was a plus.

Advantages

There are lots of advantages, many of which have been touched on previously. One of the most significant is the speed and accuracy of delivery. People don't need to wait for the reports to be sorted either by the computer center or the mailroom. People don't need to wait for the mail to come. People don't need to wait for the office secretary to distribute the reports. None of this waiting is necessary, because the reports are emailed directly to the persons for whom they are ultimately intended, usually within minutes. Delivery is accurate; report distribution errors are reduced or eliminated.

One of the biggest benefits of receiving documents via email is all of the different things you can do with the emailed information once you get it. The power of the PC and its tools are available to use and manage the emailed reports as you wish. Reports are electronically searchable; instead of paging through long reports looking for a particular person or dollar amount, tools such as MS Word allow documents to be searched electronically. Reports may be printed all or in part. Reports are more "in-your-face" and are less easily misplaced or ignored. Reports may be moved to a shared directory to allow access by

multiple people. Reports may be retained on a server. Reports may be burned to a CD. Reports may be forwarded to others for review. Multiple copies of a report can be viewed and scrolled at the same time on the same screen. Reports may be cut, copied and pasted into another document or spreadsheet.

Some reports that may not have been practical for paper distribution may now be. Notifications to instructors when a student withdraws from a class or from the University was not something that was previously practical at UW-Eau Claire, but it is practical and has been very much appreciated since we have begun sending notifications via email. Reports may also be sent to multiple people--even dozens or hundreds of people--something that might be neither affordable nor practical with a printed version.

Savings

Less paper. We have saved lots and lots of paper. At least a 30% reduction so far. We have also saved all the consumables that go with printing (e.g. toner, envelopes and labels). The costs of printing are also pushed out to the users. They can decide whether something is worth printing and they bear the costs of printing. We don't have to convince them they don't really need some huge report. We can say yes without paying for printing.

Less microfiche. Once each term (4 times a year) we close out our student account receivables. This closing process generated several thousand pages of reports that used to go to microfiche and paper. Microfiche for retention and paper because users couldn't be without the information while waiting for the microfiche to be generated. Now we email the reports to a staff member in that office who moves them to a shared directory. No microfiche OR paper reports are created anymore as part of this process. Everyone in the office now has access to the information which is now electronically searchable.

Less postage. We haven't spent a lot of time measuring this, but we have definitely saved postage. We will save even more as we begin to exploit return receipt functionality and eliminate more and more mandated mailings. Return receipt and automated processing of the return receipt messages will allow us to use email for notifications required by law. One example is the notifications we are required to send to students when we apply their financial aid to their account to pay their student fees. We send out thousands of these every year.

Fewer, smaller printers. Because much printing is now diverted from the computer room and the large mainframe printers, we can buy fewer and smaller printers. We went from two 75 page per minute printers to two 40 page per minute printers attached to our mainframe. We are also less dependent on them because more of our reports can be distributed in other ways. Distributed printers have replaced some of this printing, but much of it has been eliminated altogether.

Less operator time. Computing and Networking Services runs a lights-out computer room from 4:30pm until 6:00am. Not all of this is due to our diversion of printing to email, but we have reduced operator time as printing has decreased. We expect this to continue.

Fewer lost reports. We have lots of little reports that were easily lost and required lots of careful handling to be distributed properly. There have been significant savings here too.

Less distribution time. Payroll used to hire people to hand out paychecks and earnings statements. That burden is much reduced. The Registrar used to hire students to hand out printed degree audits for a full week each semester just before each registration period. That expense has been eliminated.

Improved Services

People have their reports when they get to work in the morning instead of waiting for our staff to sort and distribute them. Other reports that were distributed via campus mail used to take a day or more to reach the recipient. No longer.

After leaving our office, reports destined for various departments might also need to be sorted and distributed by the department secretary. Now these reports can be sent directly to the person for whom

they are intended, bypassing the secretary and saving her time and more delay.

Reports that had some value but didn't justify the expense of printing can now be generated more often and more completely.

We can send students confirmations of schedule changes whenever one occurs, because we no longer have to pay postage. We can email it!

Precautions

Keep in mind the people who do not use email, either because they don't know how or because they don't want to. Retain alternative delivery for non-email users when feasible. Also use return receipt for documents that MUST be delivered. Know who is using email. We do this by reading the logs for people who are checking email and send a summary of this information back to our database for recording. This allows us to know before we send an email from our administrative mainframe whether someone is likely to read it. It helps us decide when and if we should send it another way. (This is also how I know that our email usage is at 90%.) Sometimes the people who don't use email will surprise you.

Bring your email administrators and your programmers together. They will need each other's help to make this work. Get them comfortable with asking each other for assistance. Inform them of what each can do for the other. Often these people have different backgrounds. It might require bringing your mainframe COBOL programmers together with the PC/NT people who use Perl as their primary language.

Learn how email works. Learn something about SMTP and POP3.

Handle errors. If your SMTP server is down, you must be able to recover and regenerate the messages. We have reduced this problem by creating a utility program that emails messages from a standard file format. Any programs that are not easily re-run build a file of email messages that is processed by the utility program. It has all necessary error-handling, marks each message after a successful send, and is capable of re-sending any or all messages if necessary.

Make sure your email server and the servers upon which people store their email are able to hold the size and number of messages and reports you are sending.

Let your help desk know what's going on BEFORE you do a big mailing. Involve the help desk staff in the piloting of new applications if at all possible. Try out different email clients and different fonts when reading the messages. What might look good in one font may look terrible in another.

Make sure undeliverable messages get sent to a real person. Don't let them vanish into cyberspace. Undeliverable messages can be a key to finding problems with your system and your assumptions earlier instead of later.

Use aliases and distribution lists for directing urgent messages to staff whenever possible so you don't need to re-direct messages whenever someone goes on vacation. Recognize that many recipients will "reply" to a mass mailing, even if directed not to, so set up an address that is appropriate to receive and handle those responses.

Teach recipients how to lock documents after they have received them using passwords or read-only directories to prevent changes, accidental or intentional, to documents meant for permanent retention.

Let your users warm up to it. Take it slowly. Don't force them. They'll see the benefits if you give them a bit of time.

Test! Test! Test! It's really easy to send thousands of messages to the wrong place if you're not careful. Some of this data is confidential; guard it carefully.

Conclusion

You can save money and improve services to your faculty and students by using email as an official means of communication. Don't wait to plug into email's full power!